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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Chen et al.

Application No. 10/016,918

Filed: December 14, 2001

For: QUALITY IMPROVEMENT TECHNIQUES IN  
AN AUDIO ENCODER

Examiner: Not yet assigned

Date: May 1, 2002



Art Unit: 2641

CERTIFICATE OF MAILING

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service on May 1, 2002 as First Class Mail in an envelope addressed to: COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231.



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Attorney for Applicant

**INFORMATION DISCLOSURE STATEMENT**  
**PURSUANT TO 37 C.F.R. § 1.97(b)(3)**

COMMISSIONER FOR PATENTS  
WASHINGTON, DC 20231

Sir:

Listed on the accompanying form PTO-1449 and enclosed herewith are several English-language and/or non-English-language documents. The non-English language documents (portions of Zwicker et al., Das Ohr als Nachrichtenempfänger and Zwicker, Psychoakustik) relate to human auditory models. Applicants respectfully request that these documents be listed as references cited on the issued patent.

Applicants filed this Information Disclosure Statement (“IDS”) before the mailing date of a first Office action on the merits. As a result, no fee should be required to file this IDS. However, if the Patent Office determines that a fee is required for Applicants to file this Information Disclosure Statement, please charge any such fees, or credit overpayment, to Deposit Account No. 02-4550. A duplicate copy of this Information Disclosure Statement is enclosed.

Respectfully submitted,

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<b>INFORMATION DISCLOSURE STATEMENT</b> <b>BY APPLICANT</b>		Docket: 3382-61344	App: 10/016,918				
		Applicant: Chen et al.					
		Filed: December 14, 2001	Art Unit: 2641				
<b>PATENT DOCUMENTS</b>							
Init.*		Number	Date	Name	Class	Sub	Filed
		5,686,964	11.11.97	Tabatabai et al.			
		5,845,243	12.01.98	Smart et al.	<b>RECEIVED</b> MAY 08 2002 <i>Technology Center 2600</i>		
		5,995,151	11.30.99	Naveen et al.			
<b>OTHER DOCUMENTS</b>							
		Gibson et al., <u>Digital Compression for Multimedia</u> , Title Page, Contents, "Chapter 7: Frequency Domain Coding," Morgan Kaufman Publishers, Inc., pp. iii, v-xi, and 227-262 (1998).					
		H.S. Malvar, <u>Signal Processing with Lapped Transforms</u> , Artech House, Norwood, MA, pp. iv, vii-xi, 175-218, 353-57 (1992).					
		H.S. Malvar, "Lapped Transforms for Efficient Transform/Subband Coding," <i>IEEE Transactions on Acoustics, Speech and Signal Processing</i> , Volume 38, No. 6, pp. 969-78 (1990).					
		Seymour Schlien, "The Modulated Lapped Transform, Its Time-Varying Forms, and Its Application to Audio Coding Standards," <i>IEEE Transactions on Speech and Audio Processing</i> , Vol. 5, No. 4, pp. 359-66 (July 1997).					
		de Queiroz et al., "Time-Varying Lapped Transforms and Wavelet Packets," <i>IEEE Transactions on Signal Processing</i> , Vol. 41, pp. 3293-3305 (1993).					
EXAMINER:		DATE					
<p>*Examiner: Initial if considered, whether or not in conformance with MPEP 609; draw line through cite if not in conformance and not considered. Send copy.</p>							

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<b>OTHER DOCUMENTS</b>				
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			Srinivasan et al., "High-Quality Audio Compression Using an Adaptive Wavelet Packet Decomposition and Psychoacoustic Modeling," <i>IEEE Transactions on Signal Processing</i> , Vol. 46, No. 4, pp. 1085-93 (April 1998).	
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			Ribas Corbera et al., "Rate Control in DCT Video Coding for Low-Delay Communications," <i>IEEE Transactions on Circuits and Systems for Video Technology</i> , Vol. 9, No. 1, pp. 172-85 (February 1999).	
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			Terhardt, "Calculating Virtual Pitch," <i>Hearing Research</i> , 1:155-182 (1979).	
			Lufti, "Additivity of Simultaneous Masking," <i>Journal of Acoustic Society of America</i> , 73:262-267 (1983).	
			Jesteadt et al., "Forward Masking as a Function of Frequency, Masker Level, and Signal Delay," <i>Journal of Acoustical Society of America</i> , 71:950-962 (1982).	
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			ITU, Recommendation ITU-R BS 1387, Method for Objective Measurements of Perceived Audio Quality, 89 pp. (1998).	
			ITU, Recommendation ITU-R BS 1115, Low Bit-Rate Audio Coding, 9 pp. (1994). <b>RECEIVED</b> <b>MAY 08 2002</b>	
			Beerends, "Audio Quality Determination Based on Perceptual Measurement Techniques," <u>Applications of Digital Signal Processing to Audio and Acoustics</u> , Chapter 1, Ed. Mark Kahrs, Karlheinz Brandenburg, Kluwer Acad. Publ., pp. 1-38 (1998). <b>TECHNOLOGY CENTER 2600</b>	
			Zwicker, <u>Psychoakustik</u> , Title Page, Table of Contents, "Teil I: Einführung," Index, Springer-Verlag, Berlin Heidelberg, New York, pp. II, IX-XI, 1-30, and 157-162 (1982).	
			Solari, <u>Digital Video and Audio Compression</u> , Title Page, Contents, "Chapter 8: Sound and Audio," McGraw-Hill, Inc., pp. iii, v-vi, and 187-211 (1997).	
			A.M. Kondoz, <u>Digital Speech: Coding for Low Bit Rate Communications Systems</u> , "Chapter 3.3: Linear Predictive Modeling of Speech Signals" and "Chapter 4: LPC Parameter Quantisation Using LSFs," John Wiley & Sons, pp. 42-53 and 79-97 (1994).	
			Kadatch, U.S. Patent Application Serial No. 09/771,371, entitled, "Quantization Loop with Heuristic Approach," filed January 26, 2001.	
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<b>OTHER DOCUMENTS</b>				
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			De Luca, "AN1090 Application Note: STA013 MPEG 2.5 Layer III Source Decoder," STMicroelectronics, 17 pp. (1999).	
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